

USER'S MANUAL

JLL-2000 AN

HYDRAULIC

ELEVATOR CONTROLLER

CANBUS PROCESSOR

JLL-2000 SERIES

CODE B44-07 AND CODE B44-07/10


VERSION

JLL-2000_CAN_6011_A_07-10-1.5

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NOTES AND PRECAUTIONS

- The controller must be installed by competent people who possess the suitable training and cards for the installation of elevator controllers;
- The controller's power supply must come from a fuse switch supplied by others. The fuses value must respect the electrical code;
- It is necessary to install a separate conductive element to ground the controller in the mechanical room. To know the size of the conductive element, check the electrical code. An indirect grounding (e.g. water pipes) may cause intermittent troubles and electrical noises may occur;
-  The controller contains electrostatic sensitive devices. Before handling a component, it's necessary to touch a grounded metal object (GND) to avoid an electrostatic discharge on it.
- To avoid problems caused by transportation and handling, check and tighten all the points of connections on the side "power"; from main power supply of the controller to the motor;
- Please note the controller comes with a one (1) year guarantee, effective on the day of billing. An improper use of the controller, an incorrect connection or the disregard of the user's manual may void the guarantee. Also note that only the components are guaranteed;
- In case of an incorrect connection, the controller is protected by TVS which can short-circuit. Verify the functioning and replace them if needed.

Operating conditions:

- The 3 phases entry voltage may vary by more or less 10 %;
- A 60HZ frequency is standard, a 50HZ frequency is available on special order;
- The operating temperature is 0 to 45°C (32 to 113°F);
- The relative humidity is 95 %;
- Do not install the NEMA 1 standard enclosure in a dusty environment or where there is risk of water infiltration. Other types of enclosures are available upon request (NEMA 4, 12 etc.);
- Please contact Automatisation JRT Inc. if the motor is installed at 50 ft. or more from the controller;

General information:

JLL-2000 series controllers were developed for a quick and easy installation and operation. The controllers have functions of internal self-diagnosis, which allow an easy maintenance. There are also several functions that are programmable by the user.

It is very important to read thoroughly the manual, for a quick and secure installation.

General features:

- Number of floors: 4
- Maximum number of cars: 1
- ASME A17.1-20xx / CSA B44-xx Safety code compliant
- CAN/CSA-B44.1 / ASME 17.5 compliant
- Field reprogrammable

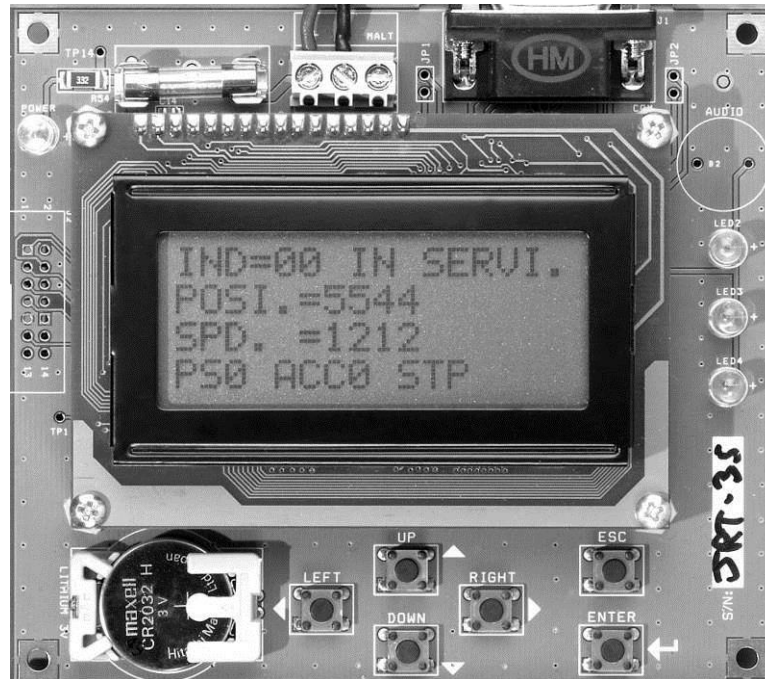
1. LCD USE (JRT-LCD):

*This section is a summary of the supervision utility. **Refer to appendix C for a complete description.***

The LCD lets you visualize the state of the elevator controller (floor, speed in FPM, perforated tape position, alarms, etc.), modify the CPU's configuration registers and also to record car calls and hall calls from a distance. The utility offers the possibility to have the information displayed in French or English.

The utility is provided with different light-emitting diodes "LED". The "POWER" LED indicates that the utility is power supplied. The "LED2" blinks to indicate that the program is functioning normally. Though, if the "LED2" stays on or off at all times, the program is not in an operational, you must reset the power.

When the elevator is in trouble or need to have a manual reset, the screen of the "LCD" utility will blink to warn the user.



1.1. KEYBOARD:

The "UP/DOWN" keys allow access to the main menus or sub-menus. They also allow changing the value of a parameter.

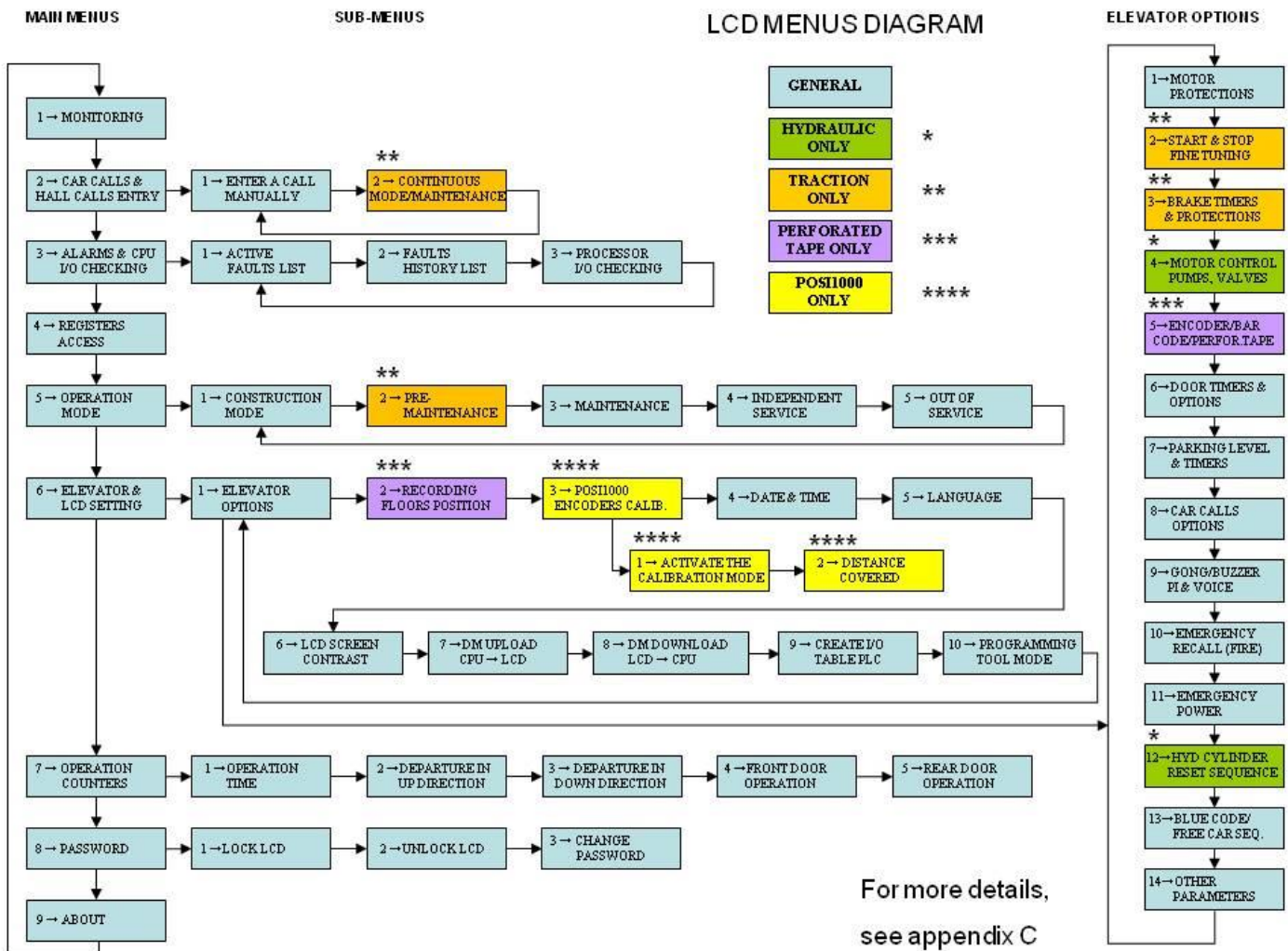
The "LEFT/RIGHT" keys allow placing the cursor on the parameter to modify.

The "ENTER" key allows access to a sub-menu. It also allows saving of a new value.

The "ESC" allows to return to the main menus or to cancel a parameter modification.

1.2. MENUS:

The "LCD" utility contains different menus available to the users.



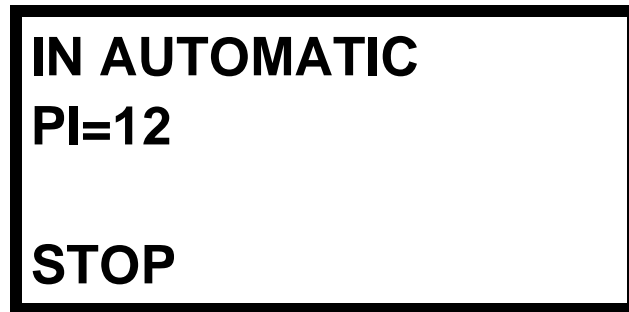
To access a menu:

- Press "ESC" to access to the main menus list.
- Press on the "UP/DOWN" keys to select a menu.
- Press "ENTER" to access the menu.

The "LCD" utility has a protection that locks the menus where it is possible to modify a value or a parameter. In order to access to these menus, the user must enter the password. See section "1.2.6 Password Menu".

1.2.1. Monitoring menu:

The "Monitoring" menu shows, in actual time, the elevator's status data. This information may be used during the temporary and final start-up. At a start-up or after 2 hours of keyboard inactivity, the following screen will appear:



Presented informations:

- PI = Floor where the elevator is located.
- IN AUTOMATIC = Actual status of the elevator (See next page for the complete list).
- If "Soft-Start", the last line is for the "Soft-Start":
 - STOP = The elevator don't moves.
 - RUN = The elevator is moving.
 - Up to speed = The elevator reach the maximum speed.

If there is more than one status in the CPU, the "LCD" will display at the second all the status.

1.2.2. Register Access menu:

This menu allows reading and writing in one of the CPU's register. The "DM" registers are used to configure the elevator.

- Press "ESC" to go back to the main menus.
- Press "UP/DOWN" keys to select the main menu "REGISTERS ACCES".
- Press "ENTER".

Register type selection:

- Press "UP/DOWN" to select a register.
 - Press "ENTER" to save.
- or
- Press "ESC" to go back to the previous menu.

Choice of registers:

- DM, CH, HR and TM



Register number selection:

- Press on the "LEFT/RIGHT" keys to place the cursor on the number to modify.
- Press on the "UP/DOWN" keys to modify the number.
- Press "ENTER" to save and to go to the next menu.
- Press "ESC" to go back to the previous menu.

REGISTER NUMBER

->DM0000

Register Value:

The register value is shown in hexadecimal and binary formats.

- Press "ENTER" to modify the selected register value.
- Press "ESC" to go back to the previous menu.

DM0000 = 0001
00000000000000001
15 ^ 8 4 0
ENTER = CHG

Modifying the register value:

- Press on the "LEFT/RIGHT" keys to place the cursor on the number to modify.
- Press on the "UP/DOWN" to modify the number.
- Press "ENTER" to save and to go back to the previous menu and visualize de new value.
- Press "ESC" to return to the previous menu.

->DM0000

OLD = 0001
NEW = 1234

1.2.3. Active faults list menu:



This menu allows visualising the different alarms in the elevator controller. The utility "LCD" displays "NO ALARM" when the elevator controller has no more alarms.

Visualizing the alarms:

- Press "ESC" to return to the main menus.
- Press "UP/DOWN" keys to select the main menu "ALARMS & CPU I/O CHECKING".
- Press "ENTER".
- Press "UP/DOWN" keys to select the sub menu "ACTIVE FAULTS LIST".
- Press "ENTER".
- Press "UP/DOWN" keys to scroll the alarms

To erase the alarms:

- Press the "ENTER" keys, the LCD will shows another windows to make a confirmation before to erase the alarms.

1.2.4. Construction mode menu:

The Construction mode disables temporarily certain detections to facilitate the elevator car construction in Inspection mode. As soon as the elevator controller is placed in Automatic mode and that a call has been placed, the Construction mode will be deactivated automatically and all signals will be in function.

The elevator controller must be in Inspection mode.

- Press "ESC" to return to the main menus.
- Press "UP/DOWN" keys to select the main menu "OPERATION MODE".
- Press "ENTER".
- Press "UP/DOWN" keys to select the sub menu "CONSTRUCTION MODE".
- Press "ENTER".
- Press "UP" to activate the Construction mode.

1.2.5. Elevator options menu:

This section contains all elevator control parameters. The parameters are separated by sections. Some sections will be hidden according to the controller type and option.

Refer to appendix C for a complete description.

- Press "ESC" to return to the main menus.
- Press "UP/DOWN" keys to select the main menu "ELEVATOR & LCD SETTINGS".
- Press "ENTER".
- Press "UP/DOWN" keys to select the sub menu "ELEVATOR OPTIONS";
- Press "ENTER".
- Press "UP/DOWN" keys to select the good option menu.
- Press "ENTER".
- Press "UP/DOWN" keys to select the good parameter.

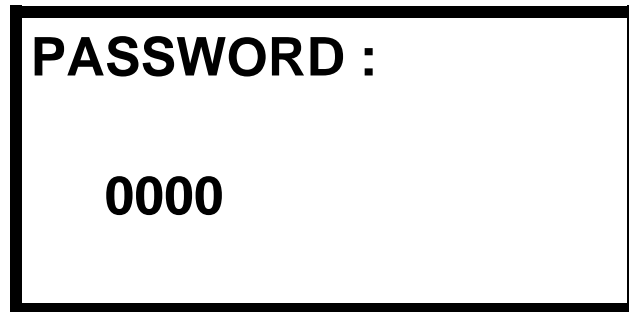
To modify an option:

- Press on "LEFT/RIGHT" keys to edit the parameter.
- Press on "LEFT/RIGHT" keys to change the digit to modify.

- Press on "UP/DOWN" keys to change the number.
- Press on "ENTER" to save the new value and exit edition mode.
- Press on "ESC" key to exit without saving.
- Repeat for all parameters that you want to change.

1.2.6. Password menu:

This menu allows entering a password to unlock the parameters modification menus. The default password is "0000".



- Press "ESC" to return to the main menus.
- Press "UP/DOWN" keys to select the main menu "PASSWORD".
- Press "ENTER".

Entering the password:

- Press on the "LEFT/RIGHT" keys to place the cursor on the number to modify.
- Press on the "UP/DOWN" keys to modify the number.
- Press "ENTER" to save.

or

- Press "ESC" to return to the previous menu.

2. USE OF THE PROGRAMMING CONSOLE (PRO01 OU PRO27):

Not available

3. TEMPORARY START-UP:

A. Install jumpers between the following terminals:

- "J0" and "J5" (bypass security line);
- "J5" and "J8" (if there is no car top inspection box);
- "J9" and "J10" (car stop);
- "J11" and "LNH" (normal up limit);
- "J11" and "LNB" (normal down limit);
- Put the hoistway door bypass switch to bypass position (hall doors closed), (hall doors locked if manual doors or motorised cam);
- Put the car door bypass switch to bypass position (car door closed);
- "LTT" and "PCH" (Top travelling inspection switch);
- "COM" and "CT" (Motor thermal contact and overheating oil sensor);

B. Set the pump motor overload relay

- If Across the Line starter: Set the overload relay according to motor FLA, as specified on the motor nameplate.
- If Star-Delta starter: Set the overload relay according to the motor FLA x 0.572.

Example: FLA = 22AMP $22 \times 0.572 = 12.5\text{AMP}$

- If Solid-State starter (**Benshaw**):

➤ Set the parameter P1 according to motor FLA.

➤ Set the parameter P74 (Starter Type) at:

ID: If 1 motor connect in Star-Delta (6 wires)

NOR: If 1 motor connect Across the Line (3 wires)

NOR: If 2 motors.

- If Solid-State starter (**Sprecher+Schuh**):

➤ Set the DIP Switch #15 **OFF if 6 wires** or **ON if 3 wires**.

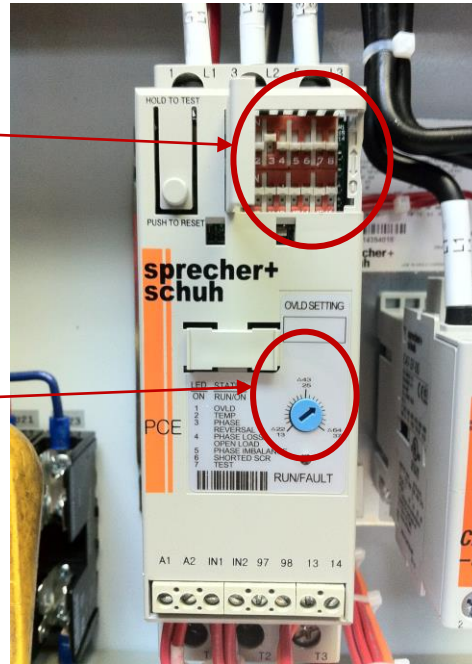
➤ Set the blue potentiometer according to :

- If 6 wires, take the nameplate current and follow the scale ΔI
- If 3 wires, take the nameplate current and follow the scale I

« **Dip Switch setting** »

See the electrical schematics.
For more details, see the Soft-Start manual.

Overload protection adjustment.



- C. Connect pumping unit to the controller (pump motor, valve, etc...)
- D. Connect the main power supply to L1, L2 and L3 terminals from the main switch.

Remove the 3 fuses and measure the voltage.

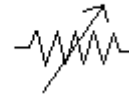
- E. Measure:
 - Controller power voltage (see drawings)
 - 120 VAC between "J" and "N", "JC" and "N".
 - 24 VDC between "+A" and "COM", "+AC" and "COM", "+GR" and "COM", (" +DC" and "COM") (internal voltage), "V+" and "V-" (Victory door operator).
- F. Synchronize the reverse phase relay (RPR):
 - If Across the Line starter: Synchronize the reverse phase relay (R.P.R.) Yellow and green lights will turn on as soon as the phases will be in the right sequence.
 - If Star-Delta starter: Synchronize the reverse phase relay (R.P.R.) Yellow and green lights will turn on as soon as the phases will be in the right sequence.

- If Solid-State starter (**Benshaw**): Set the parameter P77 (Input Phase Sensitivity) at ABC or CBA regarding main power phasing.
- If Solid-State starter (**Sprecher+Schuh**): Set the DIP Switch #9 (Phase rotation) at ON = ABC or OFF = CBA regarding main power phasing.

G. If Solid-State starter, read Soft-Start manual for more detail.

H. If the controller has a thermistor relay TUS, it must be connected to the P1-P2 sensor terminals of the motor. Reset the relay by pressing the “reset” push button on the relay. The red light should turn off. If the relay does not reset, the thermistor in the motor may be in trouble. That sensor must be thermistor type (variable resistor), not thermal contacts however, dry contact.

THERMAL CONTACT THERMISTOR



It's possible to bypass the motor thermistor sensor, if necessary, by placing a 400 or 500 OHMS resistor, ¼ or ½ watt, across P1 and P2 terminals.

If the controller has a thermal contact, connect its 2 wires between the input "CT" of the JRT-CAN-24XXX board and "COM" terminals. See electrical schematics.

I. CONSTRUCTION MODE:

The "construction" mode deactivates temporarily certain detections to facilitate the elevator car construction in "inspection" mode. As soon as the elevator controller is placed in "automatic" mode and that a call has been placed, the "construction" mode will be deactivated automatically and all signals will be in function.

The elevator controller must be in "inspection" mode

With the controller's LCD screen:

- Press "ESC" to return to the main menus.
- Press "UP/DOWN" keys to select the main menu "OPERATION MODE".
- Press "ENTER".
- Press "UP/DOWN" keys to select the sub menu "CONSTRUCTION MODE".
- Press "ENTER".
- Press "UP" to activate the Construction mode.

Deactivated Circuits:

- Low oil detection "BNH".
- Low pressures switch "LPS".
- The fire signals are completely deactivated.
- All the outputs that set off the alarms are deactivated.

- J. Connect the "up" button across "+A" and "PCH" terminals and the "down" button across "+A" and "PCB". Do not connect "ISR" terminal. The ISR relay must be off.
- K. At this time, it is not necessary to connect the Low oil detection "BNH" and the low pressures switch "LPS". They will be adjusted at the final startup.
- L. At this point of the procedure, please verify:

CPU inputs which must be activated:

- PC, PP, LNH, LNB, J9, J10, RPA, R5R.
- HDL (locked hall door contact if manual door or motorised cam).

The relays:

- ISR must not be activated.
- PC,PP and R5 must be activated.
- RPA must be activated (if required).
- RPR must be in phase (is Across the line or Y-Delta start).

The alarms:

- Hold for 2.5 seconds the « MANUAL RESET » button on the controller inspection board to reset the controller and clear the alarms. The controller will be rearmed only if all conditions are ok.
- By using the LCD, erase the alarms and then consult the alarms list to check that there are no more. (Section 1 for use of the LCD).

M. Now the elevator must move in inspection mode by placing a jumper between the terminals "+A" and "PCH" for move in up direction or "+A" and "PCB" for move in down direction.

Moving up: the input light PCH turns ON. The UCT (with Benshaw SOFT START), UCA and SU CPU outputs turn ON. The two ascent valves (U and US) outputs and their corresponding lights turn ON and the car starts moving up.

Moving down: the input light PCB turns on. The SD output light, the two descent valves (DV and DR) outputs and their corresponding lights turn ON and the car starts moving down.

IMPORTANT

The CPU inputs are designed to operate 24 volts DC. DANGER: Never apply 120 volts AC for it may cause severe damage to the inputs.

On reception of the controller, the "COM" terminal is grounded.

4. FINAL START-UP:

- A. Be sure that all sections of the temporary start-up are done.
- B. Proceed to the installation and the mechanical adjustment of the slowdown limits (Standard Tape Selector: section 6.1.2).
- C. Proceed to the adjustment of the Selector Tape (Standard Tape Selector: section 6.1)
- D. Adjust the hoistway access travelling limits (Standard Tape Selector: section 6.1.3).
- E. If the elevator is provided with a low oil level sensor, its must be configure regarding the type of contact use (See section 8.2.1). (To reset a low oil level signal, press the "MANUAL RESET" button or cycle the inspection switch off-on).
- F. If there is thermistor relay TUS, it must be reset (red light off). See chapter 3, step H.
- G. If the controller has a thermal contact "CT" it must be connect. (See section 8.2.1 for configuration).
- H. Overload relay "RS1" must be reset.
 - If Across the Line or Star-Delta starter: Reset it by pressing the reset buton on the "RS1" relay
 - If Solid-State starter (Benshaw): Reset fault relay (FLT) by pressing Parameter & Up buttons simultaneously on the circuit board.
 - If Solid-State starter (Sprecher+Schuh): Reset fault by pressing « Push to reset » buttons on the soft-start.
- I. Proceed to all tests and adjustments described in sections 8.
- J. Put the elevator in "maintenance" mode using the controller's switch. Put the inspection switch to "NORMAL". It is now possible to place car calls without the doors opening.

To reset all the alarms (2 different ways):

- Hold for 2.5 seconds the « MANUAL RESET » button on the controller inspection board to reset the controller and clear the alarms. The controller will be rearmed only if all conditions are ok.
- By using the LCD, erase the alarms and then consult the alarms list to check that there are no more. (Section 1 for use of the LCD).

WARNING

CPU inputs are designed to operate at 24VDC. DANGER: Never apply 120VAC for it may cause severe damage to the inputs.

On reception of the controller, the COM terminal is grounded.

5. CONTROLLER TYPE:

Not Available

6. OPERATION PRINCIPLE FOR CAR ZONING AND LEVELLING:

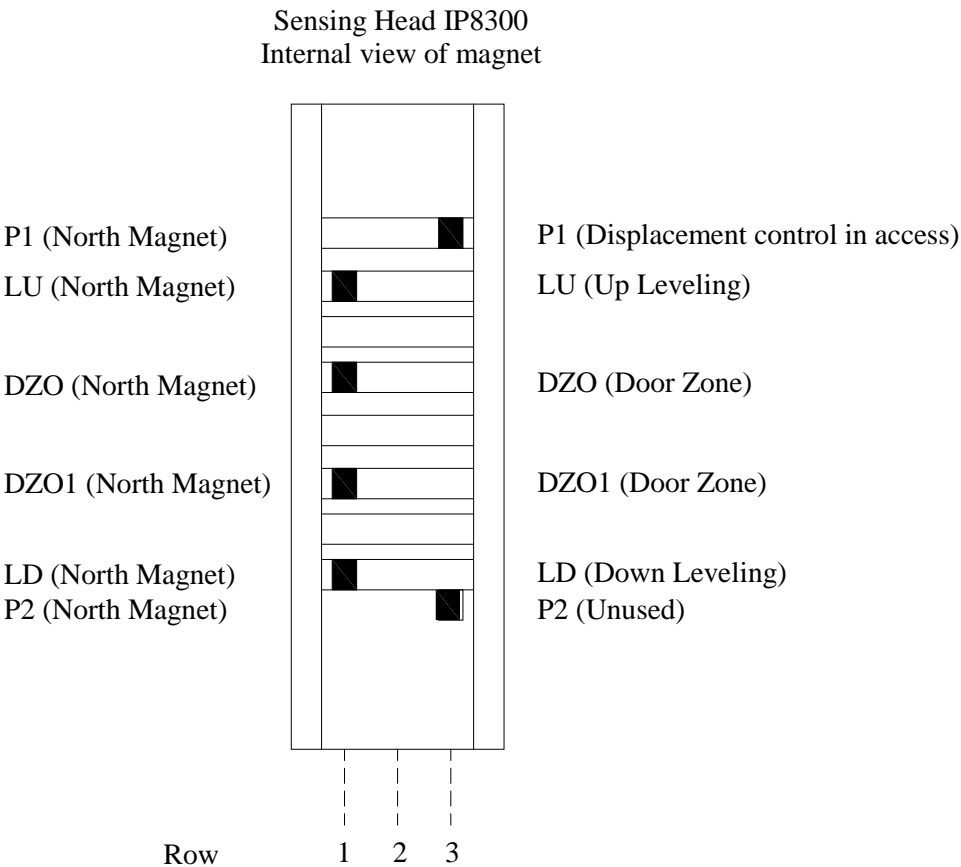
6.1. WITH A STANDARD TAPE SELECTOR: (IP8300 W6 LULA):

6.1.1. Installation of the standard tape

The set up of a tape selector replaces the PM switches and the vanes in the hoistway and also the cam and the reed switches on the car.

The steel tape is installed in the hoistway and is composed of three rows of magnets; one for door zone and leveling, one for hoistway access, the other one is not used. The sensing head is located on the car and has three rows of sensors that are sensible to "North" or "South" magnets. Four sensors (North) detect the left row of magnets: LU sensor for up leveling, LD sensor for down leveling and DZO-DZO1 sensors for door zoning. One sensor (North) detects the right row of magnets: P1 sensor for the hoistway access travel.

The sensors can be moved inside the sensing head to facilitate the adjustment of the car positioning. For example, in order to achieve the best possible leveling adjustment, it is better and easier to move the LU and LD sensors than to cut off the magnet on the steel tape.

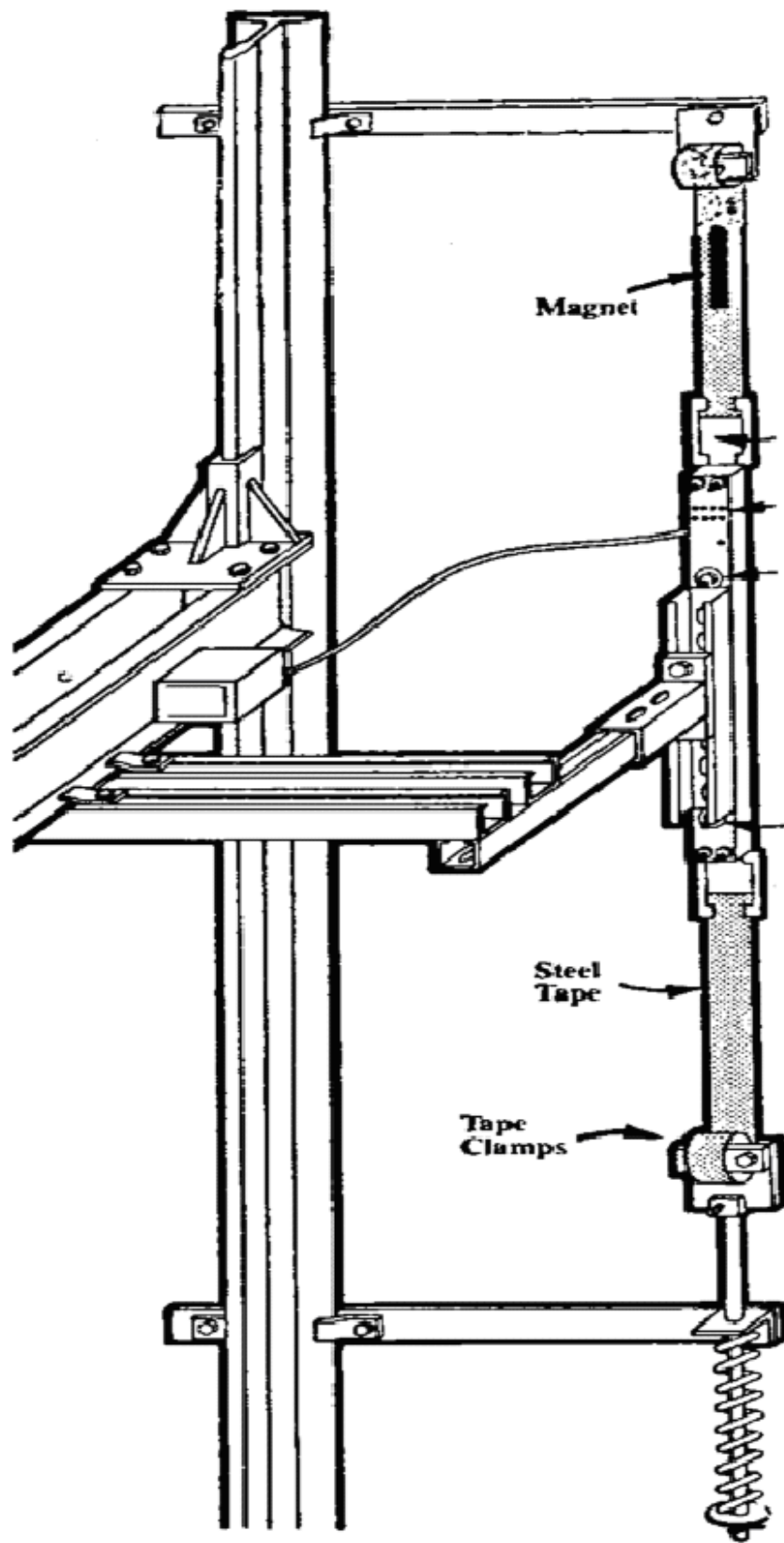


It is strongly recommended not to stick the magnets immediately to the steel tape. If a mistake should happen in the positioning, it would still be easy to move the magnets on the tape. Wait until you have made successful tests before sticking definitely the magnets to the tape.

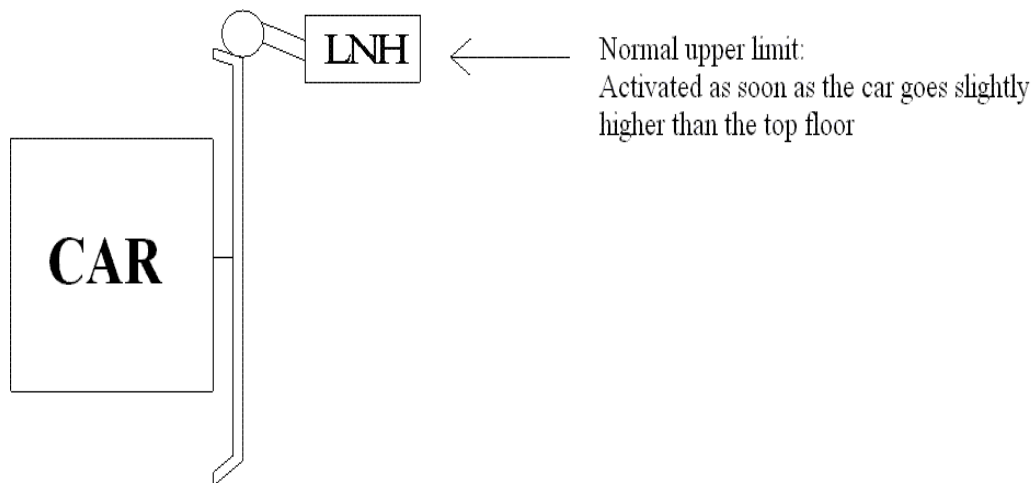
- Door zone (DZO), 7” North magnet and levellers (LU and LD):
 - Physically position the car perfectly in level with the landing
 - Mark with a pencil on the tape at the location that corresponds to the center of the 2 sensors "DZO" and "DZO1" on the side of the head reader.
 - Lower or raise the car.
 - Position the row guide to locate row 1 of the tape.
 - Install the "DZO" magnet.
 - Physically position the car level with the landing, and confirm that the DZO magnet is centered between LU and LD. The DZO input should be active, and LU and LD must be inactive.

Repeat for other floor

Standard tape selector installation:



6.1.2. End of travel limit switches installation:



The same corresponding limit switches are found at the bottom floor: LNB. The down normal limit switch must be activated as soon as the car goes 1-2 inches lower than the bottom floor.

Make sure that normal stops at top and bottom floors are engaged by the magnets, not by the limit switches (LNH-LNB).

6.1.3. Hoistway access and travel adjustment switches:

Depending on the speed of the elevator, there can be one or two hoistway access switches:

If the speed is greater than 150' /min (0.75m/s.), hoistway access switches shall be provided at:

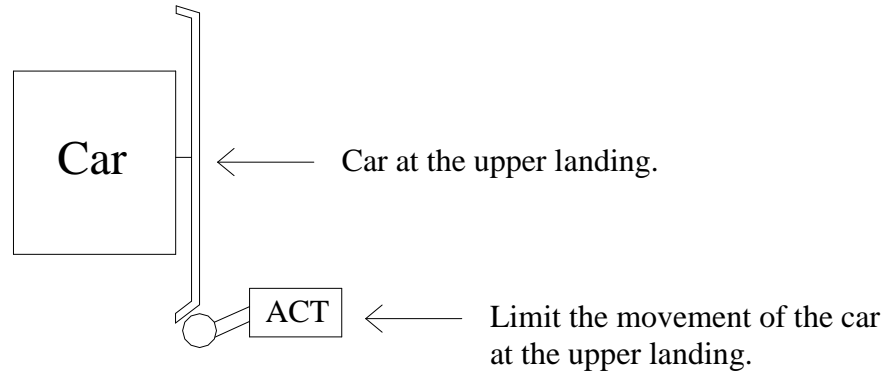
- The lowest landing for access to the pit, when a separate pit access door is not provided;
- The top landing for access to the top of the car.

If the speed is 150' /min (0.75m/s.) or less, hoistway access switches shall be provided at the top landing when the distance from the top of the car to the landing still exceeds 900mm (35 in.) when the car platform is levelled with the second landing from the top.

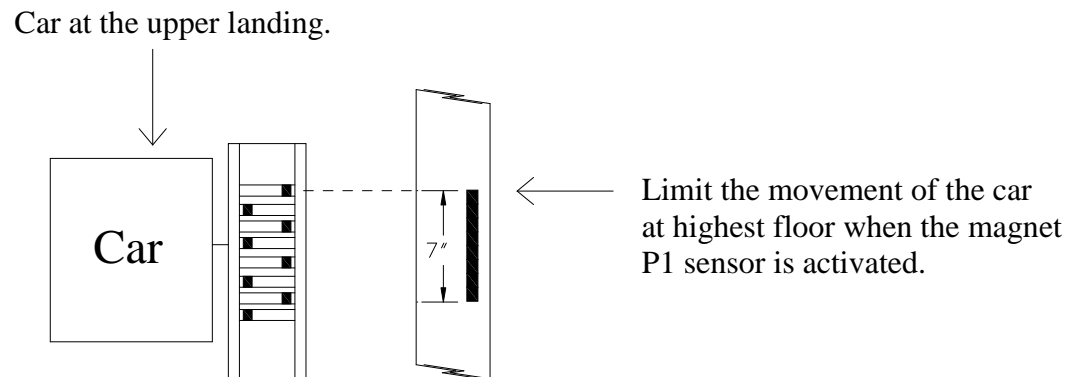
With the new A17.1/B44 code, we shall limit the movement of the car in the up and down direction.

- The movement shall be limited in the down direction to a travel not greater than the height of the car crosshead above the car platform, and limited in the up direction to the distance the platform guard extends below the car platform.

- The travel may be limited with a mechanical limit switch as shown in the figure below or by installing a 7-inch north magnet to activate the "P1" detector of the selector tape.
- Repeat is you have a bottom hoistway access.



Or



7. TERMINAL SPEED REDUCING DEVICE FOR ELEVATOR GREATER THAN 50'/MIN:

Not available

8. INTERNAL FUNCTIONS AND CONTROLLER CONFIGURATION:

Many functions and timers may be configured and adjusted in the elevator controller.

8.1. MODIFYING THE DM WITH THE LCD:

With the LCD screen, follow these instructions:

- Press "ESC" to return to the main menus.
- Press "UP/DOWN" keys to select "REGISTER ACCESS".
- Press "ENTER".
- Choose "DM" for the register type.
- Press "ENTER".
- Press the "LEFT/RIGHT" and "UP/DOWN" keys to enter the DM number.
- Press "ENTER".
- Press "ENTER" to modify the value.
- Press the "LEFT/RIGHT" and "UP/DOWN" keys to enter the new value and press "ENTER" to save the modification.

8.2. MODIFYING THE OPTION WITH THE LCD

With the LCD screen, follow these instructions:

- Press "ESC" to return to the main menus.
- Press "UP/DOWN" keys to select the main menu "ELEVATOR & LCD SETTINGS".
- Press "ENTER".
- Press "UP/DOWN" keys to select the sub menu "ELEVATOR OPTIONS";
- Press "ENTER".

8.2.1. Motor Protections:

OPTION	DESCRIPTION	UNIT	DM
DEACTIVATE THM THERMAL CONTACT	Deactivation of motor temperature protection "THM" input.	YES/NO	0183
TOO LONG TRAVEL PROTECTION DELAY	Maximum time permitted to get to another floor. That time needs to be long enough to move from bottom to top floor plus a safety margin.	0.1s	0008
INVERT LOW OIL SENSOR CONTACT	Reverse or not the polarity for the low oil sensor	YES/NO	0280
DEACTIVATE LOW PRESSURE SW. LPS	Deactivation of the low pressure switch input (LPS).	YES/NO	0116

8.2.2. Start & Stop fine tuning:

OPTION	DESCRIPTION	UNIT	DM

8.2.3. Brake timers & Protections:

OPTION	DESCRIPTION	UNIT	DM

8.2.4. Motor control pumps, valves:

OPTION	DESCRIPTION	UNIT	DM
FAST VALVE IN CONTROLLER INSPECTION	The elevator will move with fast valves when the inside controller inspection switch is activated. If NO, only the slow speed valves will be used.	YES/NO	0129
FAST VALVE CAR TOP INSP & ACCES	The elevator will move with fast valves on top of car inspection or access operation. If NO, only the slow speed valves will be used.	YES/NO	0130
DELAY FOR PUMP SMOOTH STOP	Delay that maintains motor rotation after the up valves turn off. That delay avoids a kick in the oil pipes.	0.1s	0009
NIGHT MODE ACTIVATION DELAY	Delay before the controller switch in night mode operation. Once the night mode turns on, when the levelling up sensor turns on to re-level the car, a counter delayed the car movement for one or 2 minutes. Note: as soon the car leaves the door zone or any trouble occurs, the night mode is cancelled.	Minute	0052
NIGHT MODE LEVELING DELAY	Night mode delay before LU levelling sensor move the car UP to the floor.	Minute	0053

8.2.5. Encoder/Perforated tape:

OPTION	DESCRIPTION	UNIT	DM
DECEL DISTANCE SPD <= 225FPM	Number of holes counted to slow down the elevator. In general, this is the slow down distance for 1 floor run. If the car contract speed is 200 FPM and less, this is the only slow down distance used. On a 250 FPM job, most of the time; this is the 1 floor run slowdown distance.	¾ inch	0132
DECEL DISTANCE SPD >= 250FPM	Number of holes counted to slow down the elevator. This is the slow down distance for 2 floor run and more.	¾ inch	0133
BOT ACCES ZONE LIMIT (3/4 CNT)	Number of holes counted to determine the access came at bottom floor.	¾ inch	0255
TOP ACCES ZONE LIMIT (3/4 CNT)	Number of holes counted to determine the access came at top floor.	¾ inch	0256
FORCE NEW LEVEL MANUALLY 2-TOP	This option allows forcing a specific floor level to put the car out of step. This feature is useful to make a buffer test or to verify the speed limiting device system at final floors.	n/a	0026

8.2.6. Door timers & options:

OPTION	DESCRIPTION	UNIT	DM
DOOR OPENED DEL.ON HALL CALL	Door opened time on a hall call. The timer begins to count when the door is fully opened.	0.1s	0000
DOOR OPENED DEL.ON CAR CALL	Door opened time on a car call. The timer begins to count when the door is fully opened.	0.1s	0001
DOOR OPENED DEL.ON PH RE- OPENING	Door opened time on photocell re-opening. The timer begins to count when the door is fully opened	0.1s	0002
DELAY BEFORE DOOR NUDGING	Time before door nudging when the photocell reopens the door. The timer begins to count when the door is fully opened. The door will close in reduce speed. Normally 15s.	0.1s	0066
DOOR PRE-OPENING IN LEVELING ZONE	Door pre-opening when the elevator slows down and the door zone sensor activates in levelling.	YES/NO	0080
DELAY BEFORE DOOR PRE-OPENING	When the elevator slows down and the door zone sensor activates in levelling, this is the delay before the door begins to open. Adjust that delay long enough to see around 1.0 inch when door is 75% opened.	0.1s	0088
MAIN FLOOR DOOR OPENED DELAY LW3	Activation of the longer door opened timer at main floor. This timer only at main floor and as the effect to load more the elevator cabin before the door closure. That feature is more often used in groups. Not in simplex car.	YES/NO	0092
MAIN FLOOR DOOR OPENED DELAY LW3	That delay takes effect when the longer door opened timer at main floor is activated. The weight sensor (LW3) input is generally adjusted for 25% load. As soon as that input turns on, the	0.1s	0173

	door begins to close. The door close button is not operational during that timing.		
RESET HALL DOOR TIMER ON PH	That feature is most of the time used in hospital or building with people with reduced mobility. As soon the photocell is cut or released, the door opened timer on hall call is reset. That gives more time to place the car call when the person gets in the car with a wheel chair...	YES/NO	0027

8.2.7. Parking level & timers:

OPTION	DESCRIPTION	UNIT	DM
PARKING RETURN DELAY	Delay before return to parking level. Do not enter a too small value because people that get in the car will not have enough time to place there car call. For simplex 60 sec. or more is good. For groups, 30 to 40s is good.	0.1s	0024
ACT. EXCLUSIVE PARKING LEVEL	Exclusive parking activation. On any type of control, the adjuster can temporary or permanently program a specific parking level for an elevator (Group or simplex). That parking overrides the dispatcher parking.	YES/NO	0095
EXCLUSIVE PRK. DOOR OPENED	On exclusive parking operation, door will be opened or not at the parking level.	0.1s	0096
EXCLUSIVE PRK. FL. LEVEL 1-TOP	On exclusive parking operation, specify the floor level. The level can be: 1, 2, 3, 4, 5... Example: for a parking at 2Z (second door zone), write 2. If you write 0, the CPU will correct with 1. If you enter a value greater than top floor, the CPU will change for top floor.	n/a	0097

8.2.8. Car calls options:

OPTION	DESCRIPTION	UNIT	DM
CAR CALLS ANTI- NUISANCE WITH PH	Activation of the protection of car call anti-nuisance in regards to photocell.	YES/NO	0082
NO PASSENGER RUN COUNT WITHOUT PH	If the car call anti-nuisance is activated, the controller counts the number of call answered without the photocell beam cut. When that preset count is reached, all the car calls registered will be cleared.	n/a	0083
TOP & BOTTOM CARCALL CANCELLED	When that feature is activated, each time the elevator stops at top or bottom floor, the car calls are cleared.	YES/NO	0089
OPPOSITE DIRECT. CAR CALL LOCKING	When that feature is activated, the controller locks the car call in back of the actual direction. Example: if the car moves up and is at 4th floor. 1C, 2C, 3C are not allow. Same principle in the opposite direction.	YES/NO	0090

8.2.9. Gong/Buzzer PI & voice:

OPTION	DESCRIPTION	UNIT	DM
FIRE RETURN BUZ.TURN OFF DELAY	Fire buzzer turn off delay. If the fire buzzer needs to be eared during all the main floor return, write 9999 in that register.	0.1s	0151
CAR CALL ACCEPTANCE SIG.	Activation of the car call acceptance Buzzer pulse. (CCA)	YES/NO	0086
CCA BUZZER SIG. PULSE DURATION	Car call acceptance pulse duration time.	0.1s	0038
ACTIVATE PASSING GONG GP	Passing gong activated ? (GP)	YES/NO	0081
ACTIVATE VOCAL ANNUNCIATOR	In car vocal announcer activated. If NO, the SPE output will not trig and no messages outputs will activate.	YES/NO	0093
FL. NAME WHEN PASSING EACH FLOOR	If = YES, the voice tells the floor name at each floor during a multiple floor ride. If = NO, the voice tells the floor name only at arrival in levelling.	YES/NO	0039
BINARY CODE INDICATOR ABCDE	If = NO, standard indicator (one light per floor). There is a timer that turns off the light after 30 min. to avoid burning the light cover If = YES, binary indicator A, B, C, D.	YES/NO	0126
PI UNDEF. STOP PERIOD CODE 3-99	If value less than 3 = NO. There is no flashing code sent to the position indicator when undefined stop period happened. If the value is greater than equal to 3 = YES. That code number is sent to the position indicator when undefined stop period happened. When the car moves, the actual position will be sent to the position indicator. Undefined stop period is: Faults , SI, INSPEC. MAINT, Out of service.	n/a	0160
PI DISPLAY CODE IND/FIRE/INSPECT	That feature when enabled, sends three different codes to the position indicator on those situations: Independent service, Fire, Inspection. When the car moves, the actual position will be sent to the position indicator.	YES/NO	0160
PI INDEPENDENT SERVICE CODE3-99	Flashing code to send to the position indicator in independent service (3 to 99).	n/a	0161
PI FIRE SERVICE CODE 3-99	Flashing code to send to the position indicator when general fire is activated (3 to 99).	n/a	0162
PI INSPECTION SERVICE CODE3-99	Flashing code to send to the position indicator in inspection service (3 to 99).	n/a	0163

8.2.10. Emergency recall (Fire):

OPTION	DESCRIPTION	UNIT	DM
DESIGNATED LEVEL RECALL FLOOR	Enter the designated floor recall level.	n/a	0098
ALTERNATE LEVEL RECALL FLOOR	Enter the alternate floor recall level.	n/a	0099
DESIGNATED LEVEL REAR DOOR ?	Specify if the designated level has to open the rear door. (YES = rear) (NO = front).	YES/NO	0148
ALTERNATE LEVEL REAR DOOR ?	Specify if the alternate level has to open the rear door. (YES = rear) (NO = front).	YES/NO	0149
FIRE SIGNALS INPUTS REVERSING	Reverse or not the fire signals: FS, ALT, FH, FMR. YES = input off, turns on fire sequence. NO = input activated, turns on fire sequence.	YES/NO	0152
ALTERNATE SIGNAL INPUT ON DELAY	On delay filter for ALT fire signal (0 to 1.0s)	0.1s	0153
HOISTWAY FIRE -> ALTERNATE LEVEL	Floor return selection for hoistsway fire FH: YES = return to alternate level. NO = return to designated level.	YES/NO	0056
MACHINE ROOM FIRE -> ALT LEVEL	Floor return selection for machine room fire FMR: YES = return to alternate level. NO = return to designated level.	YES/NO	0051
RESET PHASE 1 WITHOUT RFP SIG.	If the fire selector does not have a RESET fire position (RFP input), enter YES. The fire will be reset when door is opened without any fire signal activated at the designated level. Some States in USA need that feature.	YES/NO	0057
PH2, DOOR CLOSE MOMENTARY PRESS.	In phase 2, the fireman does not need to hold the door close button to close the door. Momentary pressure. Some States in USA need that feature.	YES/NO	0058

8.2.11. Emergency power:

OPTION	DESCRIPTION	UNIT	DM
INVERT GEN1 AND GEN2 CONTACTS	GEN1 and GEN2 signals input reversing.	YES/NO	0285
NORMAL OPERATION ON GENERATOR	Normal operation on emergency power operation.	YES/NO	0019

8.2.12. Hydraulic cylinder reset sequence:

OPTION	DESCRIPTION	UNIT	DM
TELES. CYLINDERS RESET SEQUENCE	Activation of the cylinders reset sequence.	YES/NO	0375
DAY (0 = SUN, 7 = EVERY DAYS)	Reset sequence days selection. (0= Sunday, 1= Monday, 2= Tuesday, 3= Wednesday, 4= Thursday, 5= Friday, 6= Saturday, 7= Every days of the week)	0 to 7	0376
1st RESET (HH:MM)	First reset sequence time.	HH:MM	0397
2nd RESET (HH:MM)	Second reset sequence time. (Write 9999 to deactivate the second reset)	HH:MM	0398
START SEQ. DELAY WITHOUT SU/SD DIR.	Once the first or the second reset time period is reached, this is the delay without any direction the sequence will initiate the bottom floor return.	0.1s	0387
SEQ. CANCEL DEL. IF NOT STARTING	Protection delay to turn off the reset sequence if the elevator did not start moving to bottom floor.	Minutes	0389
SYNCHRO SEQUENCE OPERATION TIME	Duration of the lowering down of the car on the buffers. (Between 5 and 120 seconds)	0.1s	0388
SYNCHRO SEQ MAN. ACTIVATION (TEST)	Manual activation of the reset sequence for immediate testing.	OUI/NON	0390

8.2.13. ~~Blue code/Free car sequence:~~

OPTION	DESCRIPTION	UNIT	DM

8.2.14. Other Parameters:

OPTION	DESCRIPTION	UNIT	DM
NB STARTS BEFORE FAULTS RESET	This value represents the number of starts in automatic mode before the alarm buffer list will be reset. Channels HR80 to HR88 will be erased. That number should be kept not too high for the proper operation of the alarm history list (20 to 25 normally).	n/a	0275
INVERT CAR STOP SWITCH INPUT SA	Reverse or not the car stop switch input.	YES/NO	0258
INVERT LOAD WEIGHT INPUTS	Reverse or not the 3 load weight inputs Lw1, Lw2, Lw3. Some load weight system outputs are reversed.	YES/NO	0279
DEACTIVATE BAR CODE P1, P2, P3.	Deactivate the bar code sensors. This is for temporary bar code failure. The elevator will run and LRH and LRB will correct the position at bottom and top floor. Once the problem is resolved, put NO to activate the bar code system.	YES/NO	0029

9. SYMBOLS LISTING:

SA:	Car stop switch signal
PP:	Landing door relay
HDL:	Landing door locked
PC:	Car door relay
LNB:	Down normal limit switch
LNH:	Up normal limit switch
LRH:	Up slowdown limit switch
LRB:	Down slowdown limit switch
DZO/DZO1:	Door zone
LU:	Up levelling
LD:	Down levelling
DOL:	Opened door limit switch
DCL:	Closed door limit switch
RDOL:	Rear opened door limit switch
RDCL:	Rear closed door limit switch
BDS:	Safety edge
RBDS:	Rear safety edge
PH:	Door photocell
RPH:	Rear door photocell
ISR:	Inspection relay
ISRC:	Inspection control relay
BC-2C.3C...:	Car calls
CR1-CR2...:	Card reader
2D-3D, 4D...:	Down hall calls
BU-2U, 3U...:	Up hall calls
SI:	Independent service
USL:	Zone count + up slowdown signal
DSL:	Zone count + Down slowdown signal
SU:	Car going up
SD:	Car going down
OP:	Door opening contactor
ROP:	Rear door opening contactor
CL:	Door closing contactor
RCL:	Rear door closing contactor
R5:	Trouble redundancy relay
XIN:	Hoistway access relay
UPDW:	Movement inspection relay
GEN1:	Emergency power signal

GEN2:	Pre Emergency power signal
UG1,UG2:	Emergency power selector
AIF/CIF:	Position indicator supply
FS (output):	Low speed nudging relay
INC:	Phase 1 activated
BUZ:	Phase 1, nudging, car call acceptance buzzer
FS (input):	Main floor recall on fire alarm
ALT:	Alternative floor recall on fire alarm
FMR:	Fire machine room alarm
FH:	Fire Hoistway alarm
GP:	Passing gong
GU:	Car gong with up arrow light
GD:	Car gong with down arrow light
UCA:	Motor relay
U:	Up fast speed valve relay
US:	Up slow speed valve relay
DV:	Down fast speed valve relay
DL:	Down slow speed valve relay
UC:	Main motor contactor for motor
C1, C2, C3:	Auxiliary main contactor for motor
TUC:	Wye-delta timer
UCT:	Off delay relay (If solid state starter)
RDY:	Fault solid state starter relay
RSD:	Reset solid state starter relay
BAC:	Bypass car stop switch
SPE:	Speech enables (voice annunciator)
SRD:	Speed reducing device (50'/min and more)
RPR:	Reverse phase relay
RPA:	120vac supply relay. (If RescuPower or UPS)
RS1:	Overload relay
TUS:	Thermistor protection relay
CT:	Thermal contact or Thermistor
BNH:	Low oil level
SCS :	Seismic
RCT	Reset cylinder

10. MAINTENANCE:

10.1. ALARMS AND FAULTS:

10.1.1. Alarms and status list:

The CPU memorizes several alarms and status which can be seen using the LCD screen.

All status and alarms are memorized in retentive registers "HR" and will be retained on a power loss.

To reset all the alarms (2 different ways):

- Hold for 2.5 seconds the « MANUAL RESET » button on the controller inspection board to reset the controller and clear the alarms. The controller will be rearmed only if all conditions are ok.
- With the LCD : Visualizing the alarms:
 - Press "ESC" to return to the previous menu.
 - Press "UP/DOWN" keys to select the main menu "ALARMS & CPU I/O CHECKING".
 - Press "ENTER".
 - Press "UP/DOWN" keys to select the sub menu "ACTIVE FAULTS LIST".
 - Press "ENTER".

To erase the alarms:

- Press the "ENTER" keys, the LCD will shows another windows to make a confirmation.

10.1.2. Automatic erasing of the alarms:

If an alarm occurred but that the situation has been corrected, after a certain number of trips, the controller will automatically erase the registered alarms. DM275 contains the number of trips before the alarms are erased. So, if DM275 holds the value 50, the alarms will be erased after every 50 trips made by the elevator. In le LCD, the alarms list will be erased, but the historical will not and will still hold the last 20 registered alarms.

10.1.3. Look up the drive (Soft-start) alarms and faults:

See the drive manual for more details.

10.2. ALARMS DESCRIPTION:

<u>Alarms #:</u>	<u>Description:</u>	<u>Causes et verifications</u>
HR8000	Low oil level detected. (The elevator returns to main floor)	Check the oil level in the tank.
HR8001	Available	
HR8002	Excessive travel time.	The elevator had moved at low speed. Verify LRH / LRB mechanical switches. Verify the switches that energize the valves. Verify the valves functioning.
HR8003	Phase lost / inverse detection	Verify the controller's main input voltage, the supply and the contact of «RPR» relay.
HR8004	Weight sensor "LW2" was activated.	Verify the weight load device that activated the LW2 input.
HR8005	Overheating motor thermal contact "CT", thermistor relay "TUS".	Verify the motor's condition and the state of the thermal contact (input "CT").
HR8006	Overheating oil sensor detection "SH".	Verify the state of the thermal sensor that activated the input SH.
HR8007	The door zone sensor "DZO" remained activated out of the levelling zone.	Verify the tape head. The sensor remained activated.
HR8008	"DZO" door zone sensor did not operate properly in levelling zone.	Verify the tape head. The sensor did not activate.
HR8009	Overload motor relay detection "RS1".	Verify the state and/or the adjustment of the relay "RS1".
HR8010	"LU" Levelling Up sensor did not operate properly in levelling zone.	Verify the relay and sensor operation in the top of car reader connecting box.
HR8011	"LD" Levelling Down sensor did not operate properly in levelling zone.	Verify the relay and sensor operation in the top of car reader connecting box.
HR8012	DCL switch did not open when front door closed.	Verify DCL switch operation. The switch did not open before the DM0032 delay, when front door closed, with PP and PC switches closed.

<u>Alarms #:</u>	<u>Description:</u>	<u>Causes et verifications</u>
HR8013	DCL did not close when front door opened.	Verify DCL switch operation. The switch did not close when the front door opened, with DOL switch opened, PC and PP switches closed. The DCL switch opened more than a half second while the front door was completely opened.
HR8014	DOL switch did not open when front door opened.	Verify DOL switch operation. The switch did not open when the front door is completely opened, or the door did not completely open after 12 seconds on door opening instruction when DCL switch and OP relay are closed.
HR8015	DOL switch did not close when front door closed.	Verify DOL switch operation. The switch did not close when the front door closed, with DCL switch opened and PP closed.
HR8100	RDCL switch did not open when rear door closed.	Verify RDCL switch operation. The switch did not open before DM0032 delay when rear door is closing, with PC and PP switches closed.
HR8101	RDCL switch did not close when rear door opened.	Verify RDCL switch operation. The switch did not close when rear door opened, RDOL switches opened, PC and PP switches closed. The RDCL switch opened more than a half second while the rear door was completely opened.
HR8102	RDOL switch did not open when rear door opened.	Verify RDOL switch operation. The switch did not open when rear door opened or the door did not fully open after 12 seconds on door opening instruction when RDCL switch and ROP relay are closed.
HR8103	RDOL switch did not close when rear door closed	Verify RDOL switch operation. The switch did not close when rear door closed, with RDCL switches opened and PP closed.
HR8104	PP landing doors contact did not close when doors closed.	Verify PP landing doors contact. The contact did not close when door was fully closed, after 20 seconds, DCL and RDCL opened CL and RCL relays activated. Verify DCL and RDCL switches operations.

<u>Alarms #:</u>	<u>Description:</u>	<u>Causes et verifications</u>
HR8105	PC car doors contact did not close when doors closed	Verify PC car doors contact. The contact did not close when door was fully closed, after 20 seconds, DCL and RDCL opened CL and RCL relays activated. Verify DCL and RDCL switches operations.
HR8106	PC or PP contacts did not open when doors opened.	Verify PC and PP operation. PC and PP contacts did not open when doors opened, DCL and RDCL switches opened. Verify if either contact is short-circuited or DCL and RDCL switches operation. This fault can occur if those switches are not opened when PP and PC are fully closed.
HR8107	Front door did not close completely after 5 attempts.	Verify doorway. Something might be blocking. Check PP and PC contacts operation. Also check DCL switch operation.
HR8108	Rear door did not close completely after 5 attempts.	Verify doorway. Something might be blocking. Check PP and PC contacts operation. Also check RDCL switch operation.
HR8109	Available	
HR8110	Down valve failure.	The elevator exceeded the travelling delay while starting in down direction. Check the valves' circuits. Ensure the valves proper functioning.
HR8111	J9 security line was opened.	J9 security line opened while the elevator was moving or 4 seconds after it had stopped. Verify security line switches (see drawings for more details).
HR8112	Solid state starter (soft-start) fault.	Refer to solid state starter user manual to access the error list.
HR8113	C3 or UC (if Soft-start) contactor failure or phase lost/inverse detection.	On up command, verify the contactor C3 or UC (if Soft-start) and the phase detection relay "RPR".
HR8114	The low pressure switch was activated	Verify the low pressure switch (LPS) and the pressure in the line between the cylinder and the valve.
HR8115	Following guide is activated.	Verify the following guide switch on the hydraulic cylinder.
H8200	Perforated tape reader malfunction.	The processor receives too many or not enough pulses from the perforated tape. Verify HT1 and HT2

<u>Alarms #:</u>	<u>Description:</u>	<u>Causes et verifications</u>
		indicators operation on the processor (they should be flashing when the elevator is moving). Clean both infrared transmitters and the hoistway mirror.
HR8201	Servo valve failure (EMV from Maxton, LRV from Bucher ... refer to drawings)	After 3 attempts to reset the servo valve (in 2 minutes), the elevator is shut down. To restore normal operation mode, cycle the power or press the manual reset button. Refer to the servo valve user manual to access the error list.
HR8202	Servo valve following error (EMV from Maxton, LRV from Bucher ... refer to drawings)	If the problem occurs in the « up » direction, a lowering sequence will be initiate. If the problem occurs in the « down » direction, the movement in the « down » direction will be not allowed, but calls above the car position will be authorized. If the problem occurs in both directions, the elevator is shut down and a manual reset is required. Refer to the servo valve user manual to access the error list.
HR8203	Available	
HR8204	Uncontrolled elevator speed.	Check functioning of valves relays U, US, DV and DL
HR8205	Available	
HR8206	Available	
HR8207	Available	
HR8208	The elevator moved in the wrong direction.	Ensure the motor and valves are functioning properly according to the car's direction. Ensure the contactor's are correctly activating. Ensure the perforated tape counter is properly functioning and increment appropriately (see DM5800).
HR8209	Car door contact PC relay opened during movement out of door zone.	Verify PC contacts operation and clean them.
HR8210	Hall door contact PP relay opened during movement out of door	Verify PP contacts operation and clean them. This can

<u>Alarms #:</u>	<u>Description:</u>	<u>Causes et verifications</u>
	zone.	occur when mechanics open the hall doors with a lunar key, while the elevator is moving.
HR8211	Available	
HR8212	Available	
HR8213	Available	
HR8214	Available	
HR8215	Available	
HR8300	LRH/1 and LRB/1 top and bottom slowdown limit were activated at the same time.	Verify electrical wiring and physical contacts.
HR8301	LRB1 bottom slow down limit did not operate properly.	Verify electrical wiring and physical contacts.
HR8302	LRH1 top slow down limit did not operate properly.	Verify electrical wiring and physical contacts.
HR8303	LRB bottom slow down limit did not operate properly.	Verify electrical wiring and physical contacts.
HR8304	LRH top slow down limit did not operate properly.	Verify electrical wiring and physical contacts.
HR8305	SLB/1 and SLH/1 emergency speed limiting devices were activated at the same time.	Verify electrical wiring and physical contacts.
HR8306	SLB1 bottom emergency speed limiting device did not operate properly.	Verify electrical wiring and physical contacts.
HR8307	SLH1 top emergency speed limiting device did not operate properly.	Verify electrical wiring and physical contacts.
HR8308	SLB bottom emergency speed limiting device did not operate properly.	Verify electrical wiring and physical contacts.
HR8309	SLH top emergency speed limiting device did not operate properly.	Verify electrical wiring and physical contacts.
HR8310	LNB down normal limit switch failure.	Verify electrical wiring and limit switch contact.
HR8311	LNH up normal limit switch failure.	Verify electrical wiring and limit switch contact.
HR8312	Motor overload detected by the drive Motor overload .	Verify the motor's electrical connexion and its voltage (D2 parameter, motor current, inside the drive). Make sure no mechanical trouble prevents the car from moving.
HR8313	Earthquake Service	Verify the state of the inputs "Seismic switch" and "Counterweigh derailment switch" and reset the sequence with the button "Reset earthquake service".
HR8314	Wrong LRB adjustment.	The limit is too far from the deceleration point. The

<u>Alarms #:</u>	<u>Description:</u>	<u>Causes et verifications</u>
		DM360 is even to the holes difference between the deceleration point and the slowdown limit. Reajust consequently.
HR8315	Wrong LRH adjustment.	The limit is too far from the deceleration point. The DM364 is even to the holes difference between the deceleration point and the slowdown limit. Reajust consequently.
HR8400	Available	
HR8401	Available	
HR8402	Available	
HR8403	Available	
HR8404	Available	
HR8405	Available	
HR8406	Available	
HR8500	DZO relay did not activate.	Verify DZO relay operation, because it did not activate when the CPU DZO input activated.
HR8501	DZO relay contacts remained closed.	Verify DZO relay operation, because it remained closed when the CPU DZO input deactivated
HR8502	Available	
HR8503	Available	
HR8506	LU and LD levelling sensors were activated at the same time.	Verify LU and LD relays operation. Verify the sensor operation in the top of car reader connecting box
HR8507	ISR relay did not activate.	Verify ISR relay operation, because it did not activate when the CPU ISR input activated
HR8508	ISR relay has remained closed.	Verify ISR relay operation, because it remained closed when the CPU ISR input deactivated
HR8509	PP relay did not activate.	Verify PP relay operation, because it did not activate when the CPU PP input activated
HR8510	PP relay has remained closed.	Verify PP relay operation, because it remained closed when the CPU PP input deactivated
HR8511	PC relay did not activate.	Verify PC relay operation, because it did not activate when the CPU PC input activated
HR8512	PC relay has remained closed.	Verify PC relay operation, because it remained closed

<u>Alarms #:</u>	<u>Description:</u>	<u>Causes et verifications</u>
		when the CPU PC input deactivated
HR8513	BAC relay did not activate.	Verify BAC relay operation, because it did not activate when the CPU BAC input activated
HR8514	BAC relay has remained closed.	Verify BAC relay operation, because it remained closed when the CPU BAC input deactivated
HR8600	Available	
HR8602	Reset governor switch or relay remained closed	Verify reset switch or RG relay
HR8603	XIN or XIN1 relay did not activate.	Verify XIN or XIN1 relay operation, because it did not activate when the CPU XIN or XIN1 input activated
HR8604	XIN or XIN1 relay has remained closed.	Verify XIN or XIN1 relay operation, because it remained closed when the CPU XIN or XIN1 input deactivated
HR8605	R5 relay did not activate.	Verify R5 relay operation, because it did not activate when the CPU R5 input activated
HR8606	R5 relay has remained closed.	Verify R5 relay operation, because it remained closed when the CPU R5 input deactivated
HR8607	LU relay did not activate.	Verify LU relay operation, because it did not activate when the CPU LU input activated
HR8608	LU relay has remained closed.	Verify LU relay operation, because it remained closed when the CPU LU input deactivated
HR8609	LD relay did not activate.	Verify LD relay operation, because it did not activate when the CPU LD input activated
HR8610	LD relay has remained closed.	Verify LD relay operation, because it remained closed when the CPU LD input deactivated
HR8611	HDL relay did not activate.	Verify HDL relay operation, because it did not activate when the CPU HDL input activated
HR8612	HDL relay has remained closed.	Verify HDL relay operation, because it remained closed when the CPU HDL input deactivated
HR8613	24 Volts DC +A power failure.	Verify protection fuse. The filament could be defective. There may have been short-circuited.
HR8614	UC contactor did not activate.	Verify UC contactor operation, because it did not activate when the CPU UCA output activated
HR8615	UC contactor has remained closed.	Verify UC contactor operation, because it remained

<u>Alarms #:</u>	<u>Description:</u>	<u>Causes et verifications</u>
		closed when the CPU UCA output deactivated
HR8700	RCT relay did not activate.	Verify RCT relay operation, because it did not activate when the CPU RCT output activated
HR8701	RCT relay has remained closed.	Verify RCT relay operation, because it remained closed when the CPU RCT output deactivated
HR8702	Available	
HR8703	Available	
HR8704	Available	
HR8705	Available	
HR8706	Up direction fast speed valve "U or ULS valve" had activated when the "U" relay did not activate.	Verify U relay operation.
HR8707	Up direction fast speed valve "U or ULS valve" did not activate when the "U" relay activated.	Verify U relay operation.
HR8708	Up direction slow speed valve "US or UDS valve" had activated when the "US" relay did not activate.	Verify US relay operation.
HR8709	Up direction slow speed valve "US or UDS valve" did not activate when the "US" relay activated.	Verify US relay operation.
HR8710	Down direction fast speed valve "DV or DMS valve" had activated when the "DV" relay did not activate.	Verify DV relay operation.
HR8711	Down direction fast speed valve "DV or DMS valve" did not activate when the "DV" relay activated.	Verify DV relay operation.
HR8712	Down direction slow speed valve "DL or DLS valve" had activated when the "DL" relay did not activate.	Verify DL relay operation.
HR8713	Down direction slow speed valve "DL or DLS valve" did not activate when the "DL" relay activated.	Verify DL relay operation.
HR8800	Communication lost with the JRT-CAN-MAS	Verify connections, supply and switches configuration. (See CANBUS manual)
HR8801	Communication lost with the JRT-CAN-HCI	Verify connections, supply and switches configuration. (See CANBUS manual)
HR8802	Communication lost with the Car B duplex	Verify connections, supply and switches configuration. (See CANBUS manual)

<u>Alarms #:</u>	<u>Description:</u>	<u>Causes et verifications</u>
HR8803	Communication lost with the module 0 JRT-CAN-24IO	Verify connections, supply and switches configuration. (See CANBUS manual)
HR8804	Communication lost with the module 1 JRT-CAN-24IO	Verify connections, supply and switches configuration. (See CANBUS manual)
HR8805	Communication lost with the module 2 JRT-CAN-24IO	Verify connections, supply and switches configuration. (See CANBUS manual)
HR8806	Communication lost with the module 3 JRT-CAN-24IO	Verify connections, supply and switches configuration. (See CANBUS manual)
HR8807	Hall network was opened	Verify connections, supply and switches configuration. (See CANBUS manual)
HR8808	Communication lost with the module 4 JRT-CAN-24IO	Verify connections, supply and switches configuration. (See CANBUS manual)
HR8809	Communication lost with the module 5 JRT-CAN-24IO	Verify connections, supply and switches configuration. (See CANBUS manual)
HR8810	Communication lost with the module 6 JRT-CAN-24IO	Verify connections, supply and switches configuration. (See CANBUS manual)
HR8811	Communication lost with the module 7 JRT-CAN-24IO	Verify connections, supply and switches configuration. (See CANBUS manual)
HR8812	Light curtain fault.	For a vertical sliding door freight elevator, the photocell proper functioning must be checked before closing the door. Check the photocell proper functioning.
HR8813	Available	
HR8814	Available	
HR8815	Door jammed on opening.	The elevator tried to completely open the door 3 times without succeeding. The alarm activates once an opening relay (FOP, ROP) is activated lasting more than the protection delay. Ensure the door operators are supplied. Check the door opening.

Note: The HR85-86-87 channels deactivate the R5 or ETSL relay.